

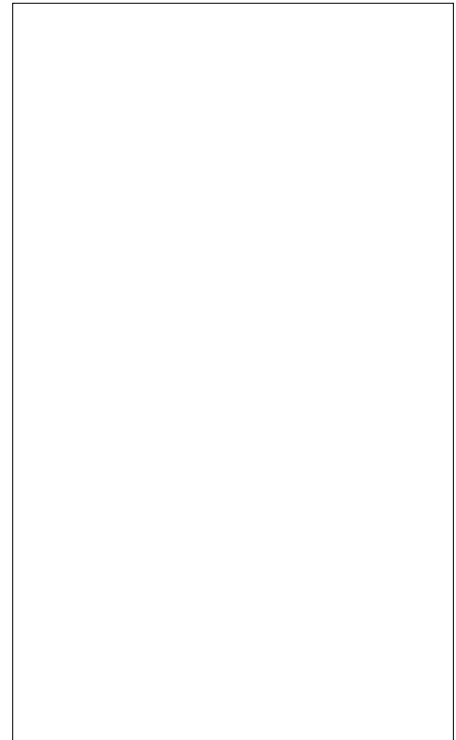


## ACJT1210-8E 12A TRIAC

Rev.A.1.1

### DESCRIPTION:

The ACJT1210-8E triac is suitable for general purpose AC switching. It can be used as an ON/OFF function in applications such as heating regulation, induction motor starting circuits, for phase control operation in light dimmers, motor speed controllers. The ACJT1210-8E embeds a TVS structure to absorb the inductive turn-off energy such as those described in the IEC 61000-4-5 standards. Package TO-263 is RoHS compliant.



### MAIN FEATURES

### ABSOLUTE MAXIMUM RATINGS

| Parameter                            | Symbol    | Value   | Unit |
|--------------------------------------|-----------|---------|------|
| Storage junction temperature range   | $T_{stg}$ | -40-150 |      |
| Operating junction temperature range | $T_j$     | -40-125 |      |

Repetitive peak off-state voltage ( $T_j=25^\circ\text{C}$ ) 125

|                                                                      |          |     |    |
|----------------------------------------------------------------------|----------|-----|----|
| Peak pulse voltage<br>( $T_j=25$ ; non-repetitive, off-state; FIG.8) | $V_{pp}$ | 4.5 | kV |
|----------------------------------------------------------------------|----------|-----|----|

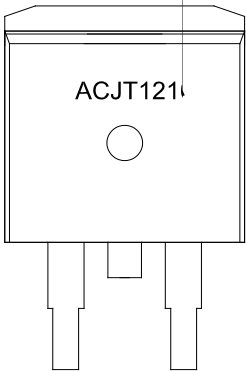
**ELECTRICAL CHARACTERISTICS** ( $T_j=25$  unless otherwise specified)

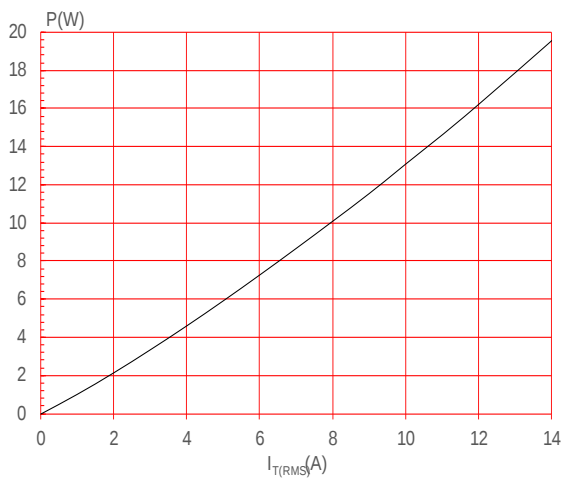
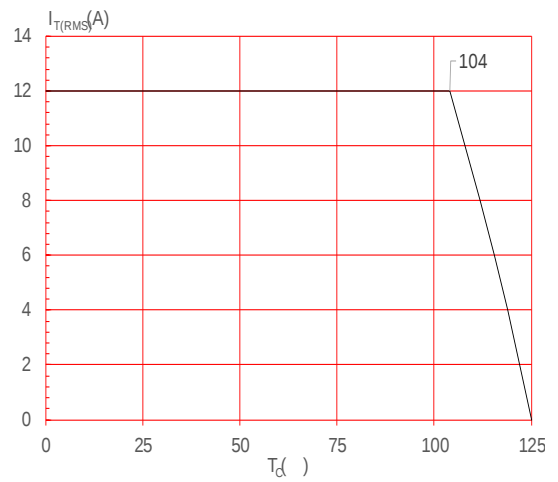
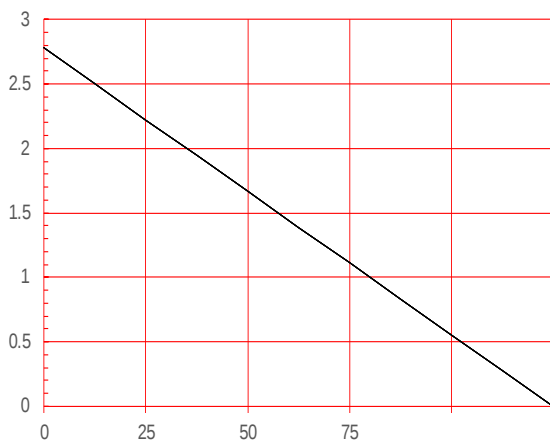
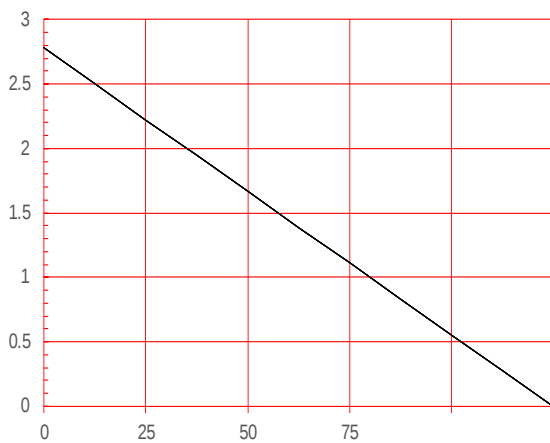
| Symbol      | Test Condition                              | Quadrant | Value |     | Unit       |
|-------------|---------------------------------------------|----------|-------|-----|------------|
| $I_{GT}$    | $V_D=12V$ $R_L=33\Omega$                    | - -      | MAX.  | 10  | mA         |
| $V_{GT}$    |                                             | - -      | MAX.  | 1   | V          |
| $V_{GD}$    | $V_D=V_{DRM}$ $T_j=125$<br>$R_L=3.3k\Omega$ | - -      | MIN.  | 0.2 | V          |
| $I_L$       | $I_G=1.2I_{GT}$                             | -        | MAX.  | 25  | mA         |
|             |                                             |          |       | 30  |            |
| $I_H$       | $I_T=500mA$                                 |          | MAX.  | 20  | mA         |
| $dV/dt$     | $V_D=540V$ Gate Open $T_j=125$              |          | MIN.  | 500 | V/ $\mu s$ |
| $(dI/dt)_c$ | $(dV/dt)_c=10V/\mu s$ , $T_j=125$           |          | MIN.  | 3   |            |

ORDERING INFORMATION

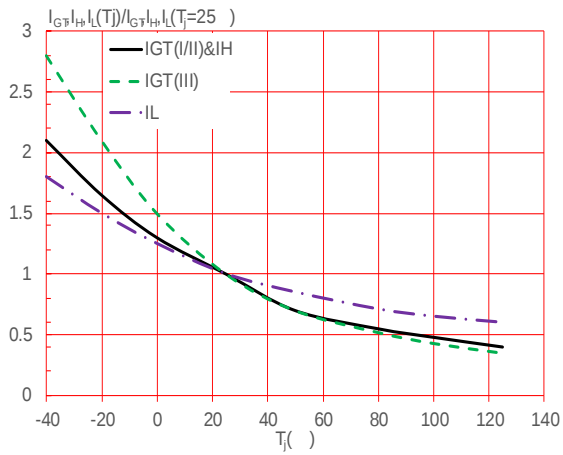
|                                   |   |                           |    |    |                                  |          |                               |
|-----------------------------------|---|---------------------------|----|----|----------------------------------|----------|-------------------------------|
| AC                                | J | T                         | 12 | 10 | -8                               | E        | -/                            |
| AC switch                         |   | Triacs                    |    |    |                                  | E:TO-263 | Blank:Tube<br>-TR:Tape & Reel |
| JieJie Microelectronics Co., Ltd. |   | <u>IT(RMS):12A</u>        |    |    |                                  |          |                               |
|                                   |   | 10: $I_{GT1-3} \leq 10mA$ |    |    | 8: $V_{DRM} / V_{RRM} \geq 800V$ |          |                               |

MARKING



**FIG.1:** Maximum power dissipation versus RMS on-state current**FIG.2:** RMS on-state current versus case temperature**FIG.3:** RMS on-state current versus ambient temperature (printed circuit board FR4,copper thickness:35μm)(full cycle)**FIG.4:** Surge peak on-state current versus number of cycles

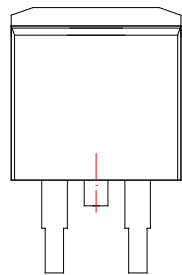
**FIG.7:** Relative variations of gate trigger current, holding current and latching current versus junction temperature





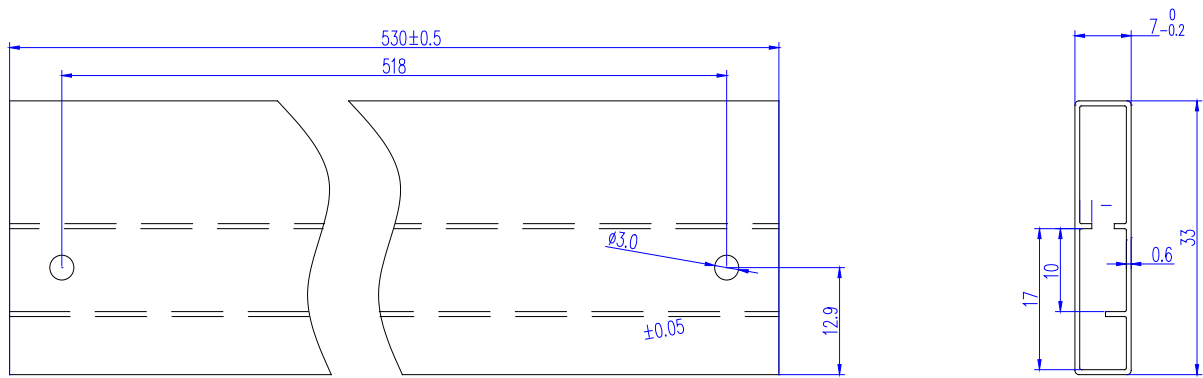


PACKAGE MECHANICAL DATA



| Ref. | Dimensions  |      |       |        |      |       |
|------|-------------|------|-------|--------|------|-------|
|      | Millimeters |      |       | Inches |      |       |
|      | Min.        | Typ. | Max.  | Min.   | Typ. | Max.  |
| A    | 9.90        |      | 10.20 | 0.390  |      | 0.402 |
|      |             |      |       |        |      |       |
| B    | 14.70       |      | 15.80 | 0.579  |      | 0.622 |
|      |             |      |       |        |      |       |
| C    | 9.40        |      | 9.60  | 0.370  |      | 0.378 |
|      |             |      |       |        |      |       |
| D    | 2.40        |      |       | 0.094  |      |       |
| E    | 1.20        |      | 1.50  | 0.047  |      | 0.059 |
| F    | 0.75        |      | 0.85  | 0.029  |      | 0.033 |
|      |             |      |       |        |      |       |
|      |             |      |       |        |      |       |
|      |             |      |       |        |      |       |
|      |             |      |       |        |      |       |

DELIVERY MODE



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